

What is claimed is:

1. A display device in which pixels are disposed in a matrix, each of said pixels including a plurality of sub-pixels, said sub-pixels each including a static random access memory.
2. The display device according to claim 1, said sub-pixels being set in either an ON state or an OFF state.
3. The display device according to claim 2, a grayscale level being set by a function of a ratio of the maximum luminance level of each of said pixels to the sum of luminance levels of all of said sub-pixels included in the each of said pixels.
4. The display device according to claim 2, a grayscale level being set by a function of a ratio of an area occupied by each of said pixels to a total area occupied by the sub-pixels in the ON state included in the each of said pixels.
5. The display device according to any one of claims 1 to 4, said sub-pixels each including a liquid crystal display element.
6. The display device according to claim 5, said liquid crystal display element being a reflection-type liquid crystal display element.
7. The display device according to any one of claims 1 to 4, said sub-pixels each including an organic electro-luminescence display element.
8. A driving method for a display device in which pixels are disposed in a matrix, each of said pixels including a plurality of sub-pixels provided with a static random access memory, said sub-pixels being controlled to be either in an ON state or an OFF state, and a grayscale being obtained by using a ratio of an area occupied by each of said pixels to a total area occupied by the sub-pixels in the ON state included in the each of said pixels.
9. A driving method for a display device in which pixels are disposed in a matrix, each of said pixels including a plurality of sub-pixels provided with a static random access memory, said sub-pixels being controlled to be either in an ON state or an OFF state, and a

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grayscale being obtained by using a ratio of the maximum luminance level of each of said pixels to the sum of luminance levels of the sub-pixels in the ON state included in the each of said pixels.

10. An electro-optical device including pixels disposed in a matrix at intersections of a plurality of signal lines and a plurality of scanning lines, each of said pixels including sub-pixels each provided with a static random access memory and an electro-optical element.

11. The electro-optical device according to claim 10, the luminance of each of said electro-optical elements having two values including a lower luminance level and a higher luminance level.

12. The electro-optical device according to claim 11, a grayscale level being set as a function of the sum of luminance levels of said electro-optical elements contained in each of said pixel.

13. The electro-optical device according to claim 11, a grayscale level being set as a function of a ratio of a total area occupied by all the electro-optical elements contained in one of said pixels to a total area occupied by the electro-optical elements which are set at the higher luminance level.

14. The electro-optical device according to any one of claims 10 to 13, said electro-optical elements being liquid crystal elements.

15. The electro-optical device according to claim 14, said liquid crystal elements being reflection-type liquid crystal elements.

16. The electro-optical device according to any one of claims 10 to 13, said electro-optical elements being organic electro-luminescence elements.

17. A driving method for an electro-optical device including pixels disposed in a matrix at intersections of a plurality of signal lines and a plurality of scanning lines, sub-pixels each provided with an electro-optical element being disposed within said pixel, said driving method comprising:

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a step of supplying a data signal for controlling a luminance level of said electro-optical elements to either a higher luminance level or a lower luminance level via said plurality of signal lines; and

a step of retaining the data signal in a static random access memory disposed within each of said sub-pixels.

18. A driving method for an electro-optical device in which pixels are disposed in a matrix, each of said pixels including a plurality of sub-pixels provided with a static random access memory, said sub-pixels being controlled to either an ON state or an OFF state, and a grayscale being obtained by using a ratio of the maximum luminance level of each of said pixels to the sum of luminance levels of the sub-pixels in the ON state included in the each of said pixels.

19. An electronic apparatus comprising the display device set forth in any one of claims 1 to 7.

20. An electronic apparatus comprising the electro-optical device set forth in any one of claims 10 to 16.

[Detailed Description of the Invention]

[Reference Numerals]

- 1 scanning line
- 2 signal lines
- 21 lower-bit signal line
- 22 higher-bit signal line
- 3 thin-film transistors
- 31 lower-bit thin-film transistor
- 32 higher-bit thin-film transistor
- 4 static random access memories
- 41 lower-bit static random access memory
- 42 higher-bit static random access memory
- 5 reflection-type liquid crystal display elements
- 51 sub lower-bit reflection-type liquid crystal display element
- 52 sub higher-bit reflection-type liquid crystal display element
- 6 organic electro-luminescence display elements
- 61 sub lower-bit organic electro-luminescence display element
- 62 sub higher-bit organic electro-luminescence display element
- 71 glass substrate
- 72 poly-crystal silicon
- 73 gate insulating film
- 74 gate electrode
- 75 source region and drain region
- 76 first interlayer insulating film
- 77 source electrode and drain electrode
- 78 second interlayer insulating film
- 79 pixel electrode

- 81 adhesion layer
- 82 interlayer
- 83 electron-hole implantation layer
- 84 luminance layer
- 85 cathode
- 86 sealing agent

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